

WHAT IS CLAIMED IS:

1. A digital information recording and/or reproducing apparatus for recording and/or reproducing digital information including an audio signal and/or video signal, said apparatus comprising:

first recording and/or reproducing means which records and/or reproduces the digital information on a nonlinear-access recording medium;

second recording and/or reproducing means which records and/or reproduces the digital information on a tape recording medium having a recording capacity which is greater than or equal to the recording capacity of said nonlinear-access recording medium; and

control means which controls said first and second recording and/or reproducing means such that the same digital information as the digital information recorded on said nonlinear-access recording medium is recorded onto said tape recording medium simultaneously to or on expiration of a certain time after the recording of the digital information onto said nonlinear-access recording medium.

2. A digital information recording and/or reproducing apparatus according to claim 1, wherein in case said first recording and/or reproducing means has failed to reproduce

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the digital information from said nonlinear-access recording medium, said control means controls said first and second recording and/or reproducing means to reproduce the digital information corresponding to the digital information of unsuccessful reproduction from said tape recording medium and record the reproduced digital information onto said nonlinear-access recording medium.

3. A digital information recording and/or reproducing apparatus according to claim 1, wherein said tape recording medium has a first recording area with a recording capacity as large as the recording capacity for the digital information on said nonlinear-access recording medium, and said control means controls said first and second recording and/or reproducing means to record in said first recording area of said tape recording medium the same digital information as the digital information recorded on said nonlinear-access recording medium.

4. A digital information recording and/or reproducing apparatus according to claim 1, wherein said first recording and/or reproducing means includes:

- a plurality of input ports and output ports; and
- a first controller which controls said input ports and output ports to introduce and release the digital

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information based on the assignment of time slots, the digital information introduced by said input ports being recorded onto said nonlinear-access recording medium under control of said first controller, the digital information reproduced from said nonlinear-access recording medium being released by said output ports under control of said first controller.

5. A digital information recording and/or reproducing apparatus according to claim 1, wherein said second recording and/or reproducing means includes:

a plurality of bins for stacking tape recording mediums;

one or more recording and/or reproducing devices;

a tape carrier which carries a tape recording medium between one of said bins and one of said recording and/or reproducing devices selectively; and

a controller which controls said recording and/or reproducing device and said tape carrier to load said tape recording medium carried by said tape carrier onto said recording and/or reproducing device, record and/or reproduce the digital information on said tape recording medium, unload said tape recording medium which has undergone the recording and/or reproduction from said recording and/or reproducing device, and stack said tape

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recording medium in said bin.

6. A digital information recording and/or reproducing apparatus for recording and reproducing digital information including an audio signal and/or video signal, said apparatus comprising:

first recording and/or reproducing means which records and/or reproduces the digital information on a nonlinear-access recording medium;

second recording and/or reproducing means which records and/or reproduces the digital information on a tape recording medium having a recording capacity which is greater than the recording capacity of said nonlinear-access recording medium; and

control means which controls said first and second recording and/or reproducing means such that when said nonlinear-access recording medium has its vacant area decreasing below a prescribed capacity, the digital information on said nonlinear-access recording medium is erased so that the erased area is added to the vacant area until the vacant area regains the prescribed capacity, and the digital information, which is erased from said nonlinear-access recording medium, is recorded onto said tape recording medium.

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apparatus according to claim 6, wherein said tape recording medium has its recording area divided into a first area and a second area, said control means controlling said first and second recording and/or reproducing means to record the digital information recorded on said nonlinear-access recording medium into said first area and record the digital information, which is erased from said nonlinear-access recording medium, into said second area.

8. A digital information recording and/or reproducing apparatus according to claim 7, wherein said control means controls said first and second recording and/or reproducing means to record the digital information, which is accessed infrequently or is erased from said nonlinear-access recording medium, into said second area of said tape recording medium.

9. A digital information recording and/or reproducing apparatus according to claim 6, wherein said control means controls said first and second recording and/or reproducing means such that in reproducing the digital information from said nonlinear-access recording medium by said first recording and/or reproducing means, if the digital information to be reproduced is absent on said nonlinear-access recording medium but is resident on said

tape recording medium, the digital information is reproduced from said tape recording medium and recorded onto said nonlinear-access recording medium.

10. A digital information recording and/or reproducing apparatus according to claim 6, wherein said first recording and/or reproducing means includes:

a plurality of input ports and output ports; and

a first controller which controls said input ports and output ports to introduce and release the digital information based on the assignment of time slots, the digital information introduced by said input ports being recorded onto said nonlinear-access recording medium under control of said first controller, the digital information reproduced from said nonlinear-access recording medium being released by said output ports under control of said first controller.

11. A digital information recording and/or reproducing apparatus according to claim 6, wherein said second recording and/or reproducing means includes:

a plurality of bins for stacking tape recording mediums;

one or more recording and/or reproducing devices;

a tape carrier which carries a tape recording medium

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between one of said bins and one of said recording and/or reproducing devices selectively; and

a controller which controls said recording and/or reproducing device and said tape carrier to load said tape recording medium carried by said tape carrier onto said recording and/or reproducing device, record and/or reproduce the digital information on said tape recording medium, unload said tape recording medium which has undergone the recording and/or reproduction from said recording and/or reproducing device, and stack said tape recording medium in said bin.

12. A digital information recording and/or reproducing apparatus for recording and reproducing digital information including an audio signal and/or video signal, said apparatus comprising:

first recording and/or reproducing means which records and/or reproduces the digital information on a nonlinear-access recording medium;

second recording and/or reproducing means which records and/or reproduces the digital information on a tape recording medium having a recording capacity which is greater than or equal to the recording capacity of said nonlinear-access recording medium; and

control means which controls said first and second

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recording and/or reproducing means such that upon receiving record serializing command information inclusive of the order of delivery of the digital information reproduced by said first recording and/or reproducing means, the digital information recorded on said nonlinear-access recording medium is reproduced in compliance with the order of delivery indicated by the record serializing command information and recorded onto said tape recording medium.

13. A digital information recording and/or reproducing apparatus according to claim 12, wherein said first recording and/or reproducing means includes:

a plurality of input ports and output ports; and
a first controller which controls said input ports and output ports to introduce and release the digital information based on the assignment of time slots, the digital information introduced by said input ports being recorded onto said nonlinear-access recording medium under control of said first controller, the digital information reproduced from said nonlinear-access recording medium being released by said output ports under control of said first controller.

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apparatus according to claim 12, wherein said second recording and/or reproducing means includes:

a plurality of bins for stacking tape recording mediums;

one or more recording and/or reproducing devices;

a tape carrier which carries a tape recording medium between one of said bins and one of said recording and/or reproducing devices selectively; and

a controller which controls said recording and/or reproducing device and said tape carrier to load said tape recording medium carried by said tape carrier onto said recording and/or reproducing device, record and/or reproduce the digital information on said tape recording medium, unload said tape recording medium which has undergone the recording and/or reproduction from said recording and/or reproducing device, and stack said tape recording medium in said bin.

15. A digital information recording and/or reproducing apparatus for recording and/or reproducing digital information including an audio signal and/or video signal, said apparatus comprising:

first recording and/or reproducing means which records and/or reproduces the digital information on a nonlinear-access recording medium;

second recording and/or reproducing means which records and/or reproduces the digital information on a tape recording medium having a recording capacity which is greater than or equal to the recording capacity of said nonlinear-access recording medium; and

control means which controls said first and second recording and/or reproducing means such that the digital information of high access frequency is recorded on said nonlinear-access recording medium and the digital information of low access frequency is recorded on said tape recording medium.

16. A digital information recording and/or reproducing apparatus according to claim 15, wherein said control means controls said first recording and/or reproducing means such that the digital information of high access frequency recorded on said nonlinear-access recording medium is released to the outside of said apparatus.

17. A digital information recording and/or reproducing apparatus according to claim 15, wherein said first recording and/or reproducing means includes:

a plurality of input ports and output ports; and

a first controller which controls said input ports and output ports to introduce and release the digital

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information based on the assignment of time slots, the digital information introduced by said input ports being recorded onto said nonlinear-access recording medium under control of said first controller, the digital information reproduced from said nonlinear-access recording medium being released by said output ports under control of said first controller.

18. A digital information recording and/or reproducing apparatus according to claim 15, wherein said second recording and/or reproducing means includes:

a plurality of bins for stacking tape recording mediums;

one or more recording and/or reproducing devices;

a tape carrier which carries a tape recording medium between one of said bins and one of said recording and/or reproducing devices selectively; and

a controller which controls said recording and/or reproducing device and said tape carrier to load said tape recording medium carried by said tape carrier onto said recording and/or reproducing device, record and/or reproduce the digital information on said tape recording medium, unload said tape recording medium which has undergone the recording and/or reproduction from said recording and/or reproducing device, and stack said tape

recording medium in said bin.

19. A digital information recording and/or reproducing method for recording and/or reproducing digital information including an audio signal and/or video signal on a nonlinear-access recording medium and a tape recording medium having a recording capacity which is greater than or equal to the recording capacity of said nonlinear-access recording medium, said method comprising:

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a first step of recording the same digital information as the digital information recorded on said nonlinear-access recording medium onto said tape recording medium simultaneously to or on expiration of a certain time after the recording of the digital information onto said nonlinear-access recording medium.

20. A digital information recording and/or reproducing method according to claim 19 further including:

a second step of, in case the reproduction of the digital information from said nonlinear-access recording medium has failed, reproducing the digital information corresponding to the digital information of unsuccessful reproduction from said tape recording medium and recording the reproduced digital information onto said nonlinear-access recording medium.

21. A digital information recording and/or reproducing method for recording and/or reproducing digital information including an audio signal and/or video signal on a nonlinear-access recording medium and a tape recording medium having a recording capacity which is greater than the recording capacity of said nonlinear-access recording medium, said method comprising:

a first step of, when said nonlinear-access recording medium has its vacant area decreasing below a prescribed capacity, erasing the digital information on said nonlinear-access recording medium so that the erased area is added to the vacant area until the vacant area regains the prescribed capacity, and recording the digital information, which is erased from said nonlinear-access recording medium, onto said tape recording medium.

22. A digital information recording and/or reproducing method according to claim 21 further including:

a second step of, in reproducing the digital information from said nonlinear-access recording medium if the digital information to be reproduced is absent on said nonlinear-access recording medium but is resident on said tape recording medium, reproducing the digital information from said tape recording medium and recording

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the reproduced digital information onto said nonlinear-access recording medium.

23. A digital information recording and/or reproducing method for recording and/or reproducing digital information including an audio signal and/or video signal on a nonlinear-access recording medium and a tape recording medium having a recording capacity which is greater than or equal to the recording capacity of said nonlinear-access recording medium, said method comprising:

a first step of, upon receiving record serializing command information inclusive of the order of reproduction of the digital information from said nonlinear-access recording medium, reproducing the digital information from said nonlinear-access recording medium in compliance with the order of delivery indicated by the record serializing command information and recording the reproduced digital information onto said tape recording medium.

24. A digital information recording and/or reproducing method for recording and/or reproducing digital information including an audio signal and/or video signal on a nonlinear-access recording medium and a tape recording medium having a recording capacity which is greater than or equal to the recording capacity of said nonlinear-access recording medium, said method comprising:

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a first step of recording the digital information of high access frequency on said nonlinear-access recording medium and recording the digital information of low access frequency on said tape recording medium.

25. A digital information recording and/or reproducing method according to claim 24 further including:

a second step of releasing the digital information, which has been recorded on said nonlinear-access recording medium in said first step, to the outside.

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